ABSTRACT

A fuel cell system of the present invention comprises a reformer (1) configured to generate a hydrogen-rich gas, a shift converter (2) configured to generate hydrogen and carbon dioxide from carbon monoxide in the hydrogen-rich gas and water, a hydrogen generator (20) including a carbon monoxide removing portion (3) configured to reduce the carbon monoxide in the hydrogen-rich gas which has not been removed in said shift converter (2), a fuel cell (4) configured to generate power using the hydrogen-rich gas supplied from the hydrogen generator (20) and an oxidizing gas, an air supply portion (6, 9) configured to supply air to at least one of a position upstream of said reformer (1) and a position between said carbon monoxide removing portion (3) and said fuel cell (4) in a flow of the fuel gas; and an impurity removing means (12, 13) configured to remove an impurity gas from the air.